6.C.4 **Mechanical and chemical adhesion at the encapsulant interfaces during the lamination of photovoltaic modules** by Philippe Nivelle, Tom Borgers, Eszter Vöröshazi, Jef Poortmans, Jan D'Haen, Ward De Ceuninck and Michaël Daenen, University Hasselt

This paper investigates the influence of the flux use in the soldering on the adhesion strength of the encapsulation polymer to the metallization/interconnection of a photovoltaic module as it can have a major effect on the long term reliability. It shows that the influence of flux is predominantly determined by the encapsulant type. The differences measured in adhesion strength could be correlated to a difference in macro-scale roughness at the interface and in the quantity of solder particles present.

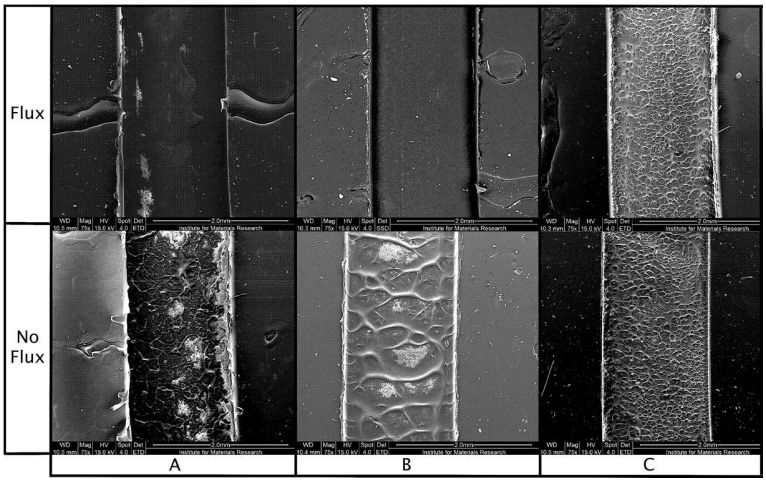

Figure 3: SEM-ETD images from the adhesion interface on the encapsulant providing a visual indication on the quantity of metallic solder particles (white) on the polymer surface.